STATE OF MAINE

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Chapter 500, Stormwater Management

and

Chapter 502, Direct Watersheds of Lakes Most at Risk from New Development, and Urban Impaired Streams

Rules

Bureau of Land and Water Quality
No. DEPLW0067-C2006

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Y. Subcatchment. An area of a project site with a unique flow path to a specific point.

Z. Two (ten, twenty-five)-year, 24-hour storm. A precipitation event with a 50% (for two-year), 10% (for ten-year), or 4% (for 25-year) probability of being equaled or exceeded during any twenty-four hour period during any given year.

AA. Watershed. The land area that drains, via overland flow, drainageways, waterbodies, or wetlands to a given waterbody or wetland.

BB. Wetlands. Coastal and freshwater wetlands as defined in the Natural Resources Protection Act, 38 M.R.S.A. § 480-B.

4. Stormwater standards. This section describes the stormwater standards that apply to a project disturbing one acre or more, or to a modification of any size as described in Section 16 of this chapter. There are six categories of stormwater standards: basic, general, phosphorus, flooding, urban impaired stream, and other. More than one standard may apply to a project. In this situation, the stricter standard is applied as determined by the department. For example, a project may be located in a stream watershed, and the stream may drain to a lake. The standards for the particular stream and lake are compared, and the stricter standard is applied as determined by the department.

A. Basic standards

(1) When the basic standards must be met. A project disturbing one acre or more must meet the basic standards. Basic standards are specified in Appendices A, B, and C of this chapter and address erosion and sedimentation control, inspection and maintenance, and housekeeping, respectively.

A project qualifies for a stormwater permit by rule (PBR) described in Section 7, and therefore need only meet basic standards, if it results in one or more acres of disturbed area and the following.

(a) Lakes most at risk and urban impaired streams. Less than 20,000 square feet of impervious area and 5 acres of developed area in the direct watershed of a lake most at risk or urban impaired stream; and
(b) All other watersheds. Less than one acre of impervious area and five acres of developed area in any other watershed.

(2) Grading or other construction activity. Grading or other construction activity on any site disturbing one acre or more may not impede or otherwise alter drainageways to have an unreasonable adverse impact on a protected natural resource.

B. General standards. General standards apply as described below in addition to the basic standards described in Section 4(A).

(1) When general standards must be met. A project disturbing one acre or more and resulting in any of the following must meet the general standards described below in Section (4)(B)(2).

(a) Urban impaired streams. 20,000 square feet or more of impervious area, or 5 acres or more of developed area, in the direct watershed of an urban impaired stream; or

(b) Other stream, coastal and freshwater wetland watersheds. One acre or more of impervious area, or 5 acres or more of developed area, in any other stream, coastal, or wetland watershed.

Some projects in lake watersheds have the option to meet general standards in lieu of the phosphorus standards as described in Section 4(C) below.

(2) Description of general standards. To meet the general standards, a project's stormwater management system must include treatment measures that will mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts. This must be achieved by using one or more of the following methods to control runoff from no less than 95% of the impervious area and no less than 80% of the developed area that is impervious or landscaped. Where treatment of 95% of the impervious area is not practicable, the department may allow treatment on as low as 90% of the impervious area if the applicant is able to demonstrate that treatment of a greater depth of runoff than specified in the standards will result in at least an equivalent amount of overall treatment for the impervious area.

The department may, on a case-by-case basis, consider alternate treatment measures to those described in this section. An alternate treatment measure must provide at least as much pollutant removal as the treatment measures listed below and, unless otherwise approved by the department, as much channel protection and temperature control.

If a project is not in an urban impaired stream watershed, the department may allow the portion of a project's impervious or developed acreage that must be treated to be reduced through mitigation by eliminating or reducing an off-site or on-site impervious stormwater source (see Section 6(B).

NOTE: The department strongly encourages applicants to incorporate low-impact development (LID) measures where practicable. LID addresses avoidance of stormwater impacts by minimizing developed and impervious areas on the project site. LID project design considers the location of any protected natural resources, and maintaining natural drainage patterns and pre-construction time of concentration. If practicable, LID incorporates runoff storage measures dispersed uniformly throughout a site rather than single point collection of stormwater through conventional end-of-pipe structures.

(a) Wetpond with detention above the permanent pool. A stormwater management system using detention to control runoff must detain, above a wetpond's permanent pool, a runoff volume equal to 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped area. If located within a stream watershed, a pond needs to discharge through an underdrained gravel outlet. A wetpond must have a storage volume below the permanent pool elevation at least equal to 1.5 inches times the subcatchment's impervious area plus 0.6 inch times the subcatchment's non-impervious developed area, a mean depth of at least three feet, and a length to width ratio of 2:1 or greater.

(b) Filter. A detention structure using filters to control runoff must detain a runoff volume equal to 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's developed area that is landscaped and discharge it solely through an underdrained vegetated soil filter having a single outlet with a diameter no greater than eight inches, or through a proprietary filter system approved by the department.

(c) Infiltration. A stormwater management system using infiltration to control runoff must retain a runoff volume equal to 1.0 inch times the subcatchment's impervious area plus 0.4 inch times the subcatchment's developed area that is landscaped and infiltrate this volume into the ground. Pre-treatment of stormwater must occur prior to discharge to the infiltration area. The infiltration area must minimize discharge of soluble pollutants to groundwater, and must be maintained to assure that its capacity for infiltration and pollutant removal is unimpaired. An infiltration system serving a development regulated under the Site Location of Development Act may be required to meet additional standards.

Infiltration from a stormwater infiltration system is considered *de minimus* and does not require an individual waste discharge license if the standards in Appendix D are met. For definitions and provisions associated with the Waste Discharge program, see 38 M.R.S.A. §§ 413 *et seq.*, and chapter 520 *et seq.* for waste discharge licensing concerns.

All drywells and subsurface fluid distribution systems must be registered with and meet all other requirements of the Department's Underground Injection Control Program.

(d) Buffers. A stormwater management system using buffers to control runoff must meet the design and sizing requirements described in Appendix F.

(3) Exceptions from the general standards. A project is eligible for an exception from the general standards as follows.

(a) Pretreatment measures. A project that includes measures to pretreat runoff to a filter or infiltration system in a department-approved, flow-through sedimentation device may reduce the runoff volume to each treatment measure described in Section 4(B)(2)(b) and (c) by 25%.

(b) Discharge to the ocean, great pond or a major river segment. A project discharging to the ocean, great pond or a major river segment and using a wetpond to meet the general standards is not required to incorporate treatment storage above the wetpond's permanent pool or to install an underdrain. The underdrain may also be omitted from a wetpond when discharging to a wetland if the department determines that filtering and temperature reduction, normally provided by an underdrain, are not necessary for maintaining the functions of the wetland.

(c) A linear portion of a project. For a linear portion of a project, runoff volume control may be reduced to no less than 75% of the volume from the impervious area and no less than 50% of the developed area that is impervious or landscaped, or the runoff volume to each treatment measure described in Section 4(B)(2) above may be reduced by 25%.

(d) A utility corridor or portion of a utility corridor. A utility corridor or portion of a utility corridor that meets the following criteria is not required to meet General standards.

(i) The project or portion of the project does not include impervious area;
(ii) Disturbed areas are restored to pre-construction contours and revegetated following construction;
(iii) Mowing of the revegetated right–of-way occurs no more than once during any twelve month period; and
(iv) A vegetation management plan for the project has been reviewed and approved by the department.

(e) Stormwater Management Law project including redevelopment. For a project requiring a Stormwater Management Law permit that includes redevelopment of impervious area that was in existence as of November 16, 2005 (the effective date of Chapter 500 revisions), the redevelopment of that impervious area is not required to meet General standards provided the department determines that the new use of the existing impervious area is not likely to increase stormwater impacts resulting from the proposed project's stormwater runoff beyond the level of impact already caused by the runoff from the existing impervious area. The requirements of Appendix D must still be met, if applicable.

(f) Site Location of Development Law project including redevelopment. For a project requiring a Site Location of Development Law permit that includes redevelopment of existing impervious area that was in existence as of November 16, 2005 (the effective date of Chapter 500 revisions), redevelopment of that impervious area is required to meet the general standards to the extent practicable as determined by the department. If the department determines that it is not practicable to make significant progress towards meeting the general standards for the redeveloped impervious area, the department may require off-site mitigation within the same watershed as an alternative for stormwater treatment. The requirements of Appendix D must still be met, if applicable.

C. Phosphorus standards.

(1) When the phosphorus standards must be met. The phosphorus standards apply only in lake watersheds. A project disturbing one acre or more and resulting in any of the following is required to meet the phosphorus standards described in Section 4(C)(2) below.

(a) Lake most at risk watersheds. 20,000 square feet or more of impervious area, or 5 acres or more of developed area, in the direct watershed of a lake most at risk, except that an applicant with a project that includes less than three acres of impervious area and less than 5 acres of developed area may choose to meet the general standards rather than the phosphorus standards if the lake is not severely blooming. Severely blooming lakes are a subset of lakes most at risk as listed in Chapter 502.

(b) Any other lake watershed. One acre or more of impervious area, or 5 acres or more of developed area, in any other lake watershed, except that an applicant with a project that includes less than three acres of impervious area and less than 5 acres of developed area may choose to meet the general standards rather than the phosphorus standards.

(2) Description of phosphorus standards. An allowable per-acre phosphorus allocation for each lake most at risk will be determined by the department. The department's determination is based upon current water quality, potential for internal recycling of phosphorus, potential as a cold-water fishery, volume and flushing rate, and projected growth in the watershed. This allocation will be used to determine phosphorus allocations for a project unless the applicant proposes an alternative per-acre phosphorus allocation that is approved by the department. If the project is a road in a subdivision, only 50% of the parcel's allocation may be applied to the road unless phosphorus export from both the road and the lots is subject to this chapter, in which case the entire allocation for the parcel may be applied.

NOTE: For guidance in calculating per-acre phosphorus allocations and in determining if stormwater phosphorus export from a project meets or exceeds the parcel's allocation, see Volume II of the Maine Stormwater Management BMP Manual.

D. Urban impaired stream standard. If required, the urban impaired stream standard applies in addition to the basic standards, general standards and phosphorus standards described in Sections 4(A), (B) and (C).

(1) When the urban impaired stream standard must be met. If a project located within the direct watershed of urban impaired stream or stream segment listed in chapter 502 results in three acres or more of impervious area or 20 acres or more of developed area, requires review pursuant to the Site Law, or is a Site Law modification of any size as described in Section 16 of this chapter, the urban impaired stream standard must be met.

(2) Description of the urban impaired stream standard. A project in the direct watershed of an urban impaired stream must pay a compensation fee or mitigate project impacts by treating, reducing or eliminating an off-site or on-site pre-development impervious stormwater source as described in Section 6(A). Compensation fees must be paid to the department's compensation fund or to an organization authorized by the department pursuant to the Stormwater Management Law, 38 M.R.S.A. § 420-D(11).

(3) Exception for a project including redevelopment. Redevelopment of an existing impervious area is not required to meet the urban impaired stream standard provided the department determines that the new use of the existing impervious area is not likely to increase stormwater impacts in the proposed project's stormwater runoff beyond the levels already present in the runoff from the existing impervious area.

E. Flooding standard. If required, the flooding standard applies in addition to the basic standards, general standards, phosphorus standards and urban impaired stream standards described in Sections 4(A), (B), and (C).

(1) When the flooding standard must be met. If a project results in three acres or more of impervious area or 20 acres or more of developed area, requires review pursuant to the Site Law, or is a modification of any size as described in Section 16 of this chapter, the flooding standard must be met. Stormwater management systems for these projects must detain, retain, or result in the infiltration of stormwater from 24-hour storms of the 2-year, 10-year, and 25-year frequencies such that the peak flows of stormwater from the project site do not exceed the peak flows of stormwater prior to undertaking the project.

(2) Waiver of the flooding standard. A project is eligible for a waiver from the flooding standard as follows.

(a) Discharge to the ocean, a great pond, or a major river segment. A waiver is available for a project in the watershed of the ocean, a great pond, or a major river segment provided the applicant demonstrates that the project conveys stormwater exclusively in sheet flow, in a manmade open channel, or in a piped system directly into one of these resources. In addition, the department may allow a variance for other rivers, if the department determines that the increase in peak flow from the site will not significantly affect the peak flow of the receiving waters or result in unreasonable adverse impact on a wetland or waterbody.

Prior to requesting a waiver as part of an application, the applicant shall secure drainage easements from any downstream property owners across whose property the runoff must flow to reach the ocean, great pond, or river. The applicant shall also demonstrate that any piped or open-channel system in which the runoff will flow has adequate capacity and stability to receive the project's runoff plus any off-site runoff also passing through the system.

(b) Insignificant increases in peak flow rates from a project site. When requesting a waiver for a project resulting in an insignificant increase in peak flow rates from a project site, the applicant shall demonstrate that insignificant increases in peak flow rates cannot be avoided by reasonable changes in project layout, density, and stormwater management design. The applicant shall also demonstrate that the proposed increases will not unreasonably increase the extent, frequency, or duration of flooding at downstream flow controls and conveyance structures or have an unreasonable adverse effect on protected natural resources. In making its determination to allow insignificant increases in peak flow rates, the department shall consider cumulative impacts. If additional information is required to make a determination concerning increased flow, the department may only consider an increase after the applicant agrees, pursuant to 38 M.R.S.A. § 344-B(3)(B), that the review period may be extended as necessary by the department.

(3) Channel limits and runoff areas. The design of piped or open channel systems must be based on a 10-year, 24-hour storm without overloading or flooding beyond channel limits. In addition, the areas expected to be flooded by runoff from a 10-year or 25-year, 24-hour storm must be designated in the application, and no buildings or other similar facilities may be planned within such areas. This does not preclude the use of parking areas, recreation areas, or similar areas from use for detention of storms greater than the 10-year, 24-hour storm. Runoff from the project may not flood the primary access road to the project and public roads as a result of a 25-year, 24-hour storm.

NOTE: The municipality, the Maine Department of Transportation, or the Maine Turnpike Authority may require a project to meet additional design standards based on the 50-year or 100-year storm. The department recommends that any applicant proposing a project that may cause flooding of a primary access road or public road contact the appropriate entity.

APPENDIX A

Lakes Most at Risk from New Development

(x) = Severely Blooming

LAKE	TOWN
ABRAMS LAKE	EASTBROOKE
ADAMS POND	BOOTHBAY
ADAMS POND	NEWFIELD
ADAMS POND	BRIDGTON
ALLEN POND	GREENE
ANASAGUNTICOOK LAKE	CANTON
ANDERSON POND	AUGUSTA
ANDROSCOGGIN LAKE	WAYNE
ANNABESSACOOK LAKE (X)	WINTHROP
BARTLETT POND	WATERBORO
BAUNEG BEG POND	SANFORD
BAY OF NAPLES	NAPLES
BEAVER POND	BRIDGTON
BERRY POND	WINTHROP
BERRY POND	GREENE
BIRCH HARBOR POND	WINTER HARBOR
BLACK POND	SWEDEN
BONNY EAGLE LAKE	BUXTON
BOULTER POND	YORK
BOYD POND	LIMINGTON
BRANCH LAKE	ELLSWORTH
BRANCH POND	CHINA
BRETTUNS POND	LIVERMORE
BUKER POND	LITCHFIELD
BUNGANUT POND	LYMAN
BURNTLAND POND	STONINGTON
CARLTON POND	WINTHROP
CHAFFIN POND	WINDHAM
CHASES POND	YORK
CHICKAWAUKIE POND	ROCKPORT
CHINA LAKE	CHINA
CITY POND	SANDY RIVER PLANTATION
COBBOSSECONTEE LAKE	WINTHROP
COCHNEWAGON LAKE	MONMOUTH
COFFEE POND	CASCO
COLD RAIN POND	NAPLES
CRAWFORD POND	WARREN
CRESCENT POND	RAYMOND
CRYSTAL LAKE	GRAY
CRYSTAL POND	TURNER
DAM POND	AUGUSTA
DAMARISCOTTA LAKE, MIDDLE AND SOUTH BASINS	NOBLEBORO
DAVIS POND	HOLDEN
DEER POND	HOLLIS
DEERING POND	SANFORD
DESERT POND	MOUNT VERNON
DEXTER POND	WINTHROP
DODGE POND	RANGELEY
DUCKPUDDLE POND	WALDOBORO
DUMPLING POND	CASCO
DUTTON POND	CHINA ALBION
EAGLE LAKE	BAR HARBOR
EAST POND	SMITHFIELD
ECHO LAKE	PRESQUE ISLE
ELL POND	SANFORD
ESTES LAKE	SANFORD
ETNA POND	STETSON
FAIRBANKS POND	MANCHESTER
FLOODS POND	OTIS
FOLLY POND	VINALHAVEN
FOREST LAKE	WINDHAM
FRESH POND	NORTH HAVEN
GARDINER POND	WISCASSET
GARLAND POND	GARLAND
GRANNY KENT POND	SHAPLEIGH
GRASSY POND	ROCKPORT
GREAT MOOSE LAKE	HARTLAND
GREAT POND	BELGRADE & ROME
GREAT POND	CAPE ELIZABETH
GREELEY POND	AUGUSTA
GREEN POND	OXFORD
HALEY POND	RANGELEY
HALF MOON POND	PROSPECT
HALL POND	PARIS
HANCOCK POND	EMBDEN
HATCASE POND	DEDHAM
HERMON POND	HERMON
HIGHLAND LAKE	BRIDGTON
HIGHLAND LAKE	WINDHAM
HOBBS (LT PENNESSE.)	NORWAY
HOGAN POND	OXFORD
HOLBROOK POND	HOLDEN
HOLLAND POND	LIMERICK
HORNE POND	LIMINGTON
HOSMER POND	CAMDEN
HUTCHINSON POND	MANCHESTER
INGALLS POND	BRIDGTON
INGHAM POND	MOUNT VERNON
ISINGLASS POND	LIMINGTON
JACOB BUCK POND	BUCKSPORT
JIMMIE (JAMIES) POND	MANCHESTER
JIMMY POND	LITCHFIELD
JORDAN POND	MOUNT DESERT
KENNEBUNK POND	LYMAN
KEZAR POND	WINTHROP
KILLICK POND	HOLLIS
KNICKERBOCKER POND	BOOTHBAY
KNIGHT POND	SOUTH BERWICK
LAKE AUBURN	AUBURN
LAKE GEORGE	SKOWHEGAN
LAKE WOOD	BAR HARBOR
LILLY POND	ROCKPORT
LILY POND	SIDNEY
LILY POND	NEW GLOUCESTER
LITTLE COBBOSSEE	WINTHROP
LITTLE DUCK POND	WINDHAM
LITTLE MEDOMAK POND	WALDOBORO
LITTLE OSSIPEE	WATERBORO

LITTLE POND	DAMARISCOTTA
LITTLE PURGATORY POND	MONMOUTH
LITTLE SABATTUS	GREENE
LITTLE SEBAGO LAKE	WINDHAM
LITTLE TOGUS POND	AUGUSTA
LITTLE WATCHIC POND	STANDISH
LITTLE WILSON POND	TURNER
LONG LAKE	BRIDGTON
LONG POND	BELGRADE
LONG POND	MOUNT DESERT
LONG POND	BUCKSPORT
LONG POND	SULLIVAN
LOON POND	SABATTUS
LOON POND	LITCHFIELD
LOVEJOY POND	ALBION
LOWER AND UPPER PONDS	SKOWHEGAN
LOWER HADLOCK POND	MOUNT DESERT
LOWER NARROWS POND	WINTHROP
LOWER RANGE POND	POLAND
MACES POND	ROCKPORT
MANSFIELD POND	HOPE
MARANACOOK LAKE	WINTHROP
MARSHALL POND	OXFORD
MCGRATH POND	OAKLAND
MEDOMAK POND	WALDOBORO
MEGUNTICOOK LAKE	LINCOLNVILLE
MESSALONSKEE LAKE	BELGRADE
MIDDLE BRANCH POND	ALFRED
MIDDLE RANGE POND	POLAND
MIRROR LAKE	ROCKPORT
MOODY POND	LINCOLNVILLE
MOODY POND	WATERBORO
MOOSE HILL POND	LIVERMORE FALLS
MOOSE POND	OTISFIELD
MOUNT BLUE POND	AVON
MOUSAM LAKE	SHAPLEIGH
MUD POND	WINSLOW
MUD POND	CHINA
MUD POND	WINDSOR
MUD POND	OXFORD
MURDOCK POND	BERWICK
NEQUASSET POND	WOOLWICH
NICHOLS POND	SWANVILLE
NO NAME POND	LEWISTON
NOKOMIS POND	NEWPORT
NORTH POND	NORWAY
NORTH POND	SUMNER
NORTH POND	SMITHFIELD
NORTON POND	LINCOLNVILLE
NOTCHED POND	RAYMOND
NUBBLE POND	RAYMOND
OAKS POND	SKOWHEGAN
OTTER POND	BRIDGTON
OTTER PONDS #2	STANDISH
PANTHER POND	RAYMOND
PARADISE POND	DAMARISCOTTA
PARKER POND	CASCO
PARKER POND	JAY
PARKER POND	LYMAN
PATTEE POND	WINSLOW
PATTEN POND	HAMPDEN
PEMAQUID POND	WALDOBORO
PENNESSEEWASSEE	NORWAY
PETINGILL POND	WINDHAM
PLEASANT POND	TURNER
PLEASANT POND (X)	RICHMOND
POVERTY POND	NEWFIELD
QUIMBY POND	RANGELEY
RAYMOND POND	RAYMOND
RICH MILL POND	STANDISH
ROBERTS WADLEY POND	LYMAN
ROCKY POND	ROCKPORT
ROUND POND	RANGELEY
RUNAROUND POND	DURHAM
SABATTUS POND (X)	GREENE
SABBATHDAY LAKE	NEW GLOUCESTER
SALMON L (ELLIS P)	BELGRADE
SALMON STREAM POND	GUILFORD
SAND POND	MONMOUTH
SAND POND	LIMINGTON
SANDY BOTTOM POND	TURNER
SANDY POND	FREEDOM
SAWYER POND	GREENVILLE
SCITUATE POND	YORK
SEBAGO LAKE	SEBAGO
SEBASTICOOK LAKE	NEWPORT
SECOND POND	DEDHAM
SEWALL POND	ARROWSIC
SHAKER POND	ALFRED
SHERMAN LAKE	NEWCASTLE
SHY BEAVER POND	SHAPLEIGH
SILVER LAKE	BUCKSPORT
SPECTACLE POND	VASSALBORO
STARBIRD POND	HARTLAND
SWAN POND	LYMAN
SWETTS POND	ORRINGTON
SYMMES POND	NEWFIELD
TAYLOR POND	AUBURN
THOMAS POND	CASCO
THOMPSON LAKE	OXFORD
THREECORNERED POND	AUGUSTA
THREEMILE POND (X)	WINDSOR
TOGUS POND	AUGUSTA
TOLMAN POND	AUGUSTA
TOOTHAKER POND	PHILLIPS
TRAVEL POND	JEFFERSON
TRICKEY POND	NAPLES
TRIPP POND	POLAND
TYLER POND	MANCHESTER
UNITY POND	UNITY
UPPER NARROWS POND	WINTHROP
UPPER RANGE POND	POLAND
WADLEY POND	LYMAN
WARD POND	SIDNEY
WARDS POND	LIMINGTON
WARREN POND	SOUTH BERWICK
WASSOOKEAG LAKE	DEXTER
WATCHIC POND	STANDISH
WEBBER POND (X)	VASSALBORO
WEST GARLAND POND	GARLAND

WEST HARBOR POND	BOOTHBAY HARBOR	YOUNGS LAKE	WESTFIELD
WHITES POND	PALMYRA		
WHITNEY POND	OXFORD		
WHITTIER POND	ROME		
WILEY POND	BOOTHBAY		
WILSON POND	WAYNE		
WOOD POND	BRIDGTON		
WOODBURY POND	MONMOUTH		
WORTHLEY POND	POLAND		
YORK POND	ELIOT		